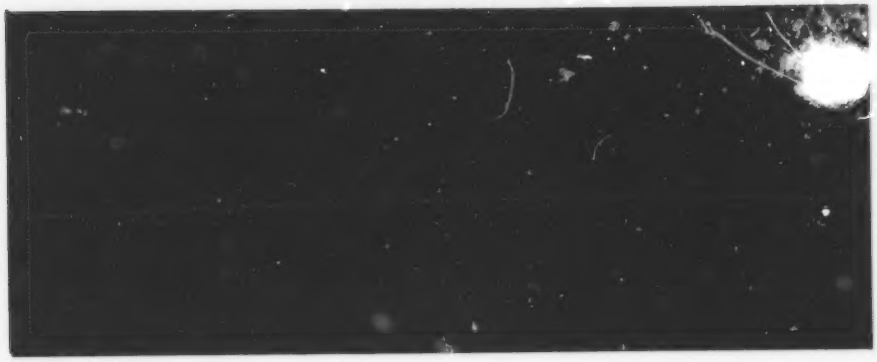
ADF

Saskatchewan Agriculture
Development Fund



Keeping the agriculture and food industries competitive through Research, Development and Demonstration.

Final Report

Conservation Farming

3.1-7

Funded by
The Agriculture Development Fund
March 31, 1989

Prepared by: District #6 Agriculture Extension
Board - Indian Head

The views expressed in this report are those of the author(s). The Agriculture Development Fund (ADF) does not accept responsibility or liability for any conclusions or recommendations in the report, and cannot guarantee the accuracy of its data or observations.

Technical/Final Report
to
Saskatchewan Agriculture Development Fund

Conservation Farming

3.1-7

93-02403/

FINAL REPORT for Year Ending March 31, 1989

ERDA Project 3.1-7

CONSERVATION FARMING

DISTRICT 6 AGRICULTURAL EXTENSION BOARD - INDIAN HEAD

Funds provided by this project are used to support the extension and technology transfer aspect of the District 6 Agricultural Extension Board's Conservation Farming Practices Program and to help ensure its efficient administration.

The "Conservation Farming Practices Program" has as its objective "to demonstrate, evaluate and promote soil conservation farming practices". The program utilizes funds from the PFRA implementing a variety of soil conservation projects on their farms.

The administration and extension and technology transfer have developed in a general way as follows:

Administration:

The program is under the direction of a committee of the District 6 Agricultural Extension Board. The committee publicizes the program, receives, reviews, priorizes and approves applications for on-farm projects. It receives and administers funds from the PFRA Soil Conservation Program and ERDA for operation of the program. It plans and organizes appropriate extension activities. Secretarial and accounting functions for the committee are provided by the District Agricultural Representative Office.

In 1988 78 projects were applied for of which 62 were completed. Sixteen projects were canceled due to the drought conditions experienced in 1988. A summary of these projects is attached in Appendix I.

The projects cancelled were all chem-fallow projects which farmers anticipated would be too costly due to an increased application of non-selective herbicides necessary to control the increased emergence of wild millet.

A noble blade was made available to the district by the PFRA for demonstrating conservation tillage. This proved an excellent machine under last years summerfallow conditions. Seven farmers tried out the 25' noble blade and found it to be an excellent method of conserving trash. Due to this interest and results our group will investigate the possibility of purchasing or leasing a similar machine for this coming year.

Due to the workload of our program we again hired a conservation agrologist (Graham Dorn) who was paid with funds provided by the ADF. Graham looked after the project evaluations, field signings and assisted in the summer tours and seminars.

In 1988 there were two participant seminars and three field days. The seminars were held in Grenfell of April 10/88 with 51 in attendance while the fall seminar was held in Glenavon on Dec. 14 with 45 farmers attending. The seminars included participants reports, technical information on soil conservation techniques and updates on program information. A sample of the Dec. seminar is attached.

Three field tours were held in July of 88. One at Summerberry with 14 farmers attending, one at Qu'Appelle with 37 attending and one at Kipling with 12 farmers in attendance.

This year we were fortunate to host the "Country Canada" people for a program they did on soil conservation. They filmed a few of our projects, talked to our participants and shot footage of our summer tour at the Howden farm near Qu'Appelle. Our exposure to the public this year through this program, radio interviews, articles in the Western Producer and the weeklies has been the best yet.

Future program

As of March 31/89 our program will be completed. In general the program has been a success with over 200 projects conducted over the three year program. The message of soil conservation was heard in all parts of District 6 and virtually every farmer in the district had a chance to hear about the program and its results.

As of this date there is no final word as to the new Soil & Water Accord which would offer our district a sizeable increase in budget to operate another three year program. Our soil conservation sub-committee did meet last fall and has developed a proposal for a new project to be submitted to the PFRA upon announcement of the Soil & Water Accord being signed.

This proposal will include the identification of specific problem areas within the district that will be addressed by targeting specific soil conservation techniques to these areas.

Individuals applying for funding must have an individual farm plan that incorporates soil conservation practices on at least one quarter section of his land that will be in effect for a long term period. These individuals must work closely with the soil conservationists and extension agrologist to develop their plan.

The new program will also provide the district with a full

time salaried conservation agrologist plus funding to purchase or lease zero-till seeding equipment and a noble blade cultivator which will be leased to successful applicants.

An economic evaluation must be provided with the individuals final report which will help us in determining net benefits from soil conservation techniques.

At present we have purchased approx. $3,000. worth of 2,4D to use for a spring 2,4D program. This will use up all funds allocated to us by the PFRA.

In closing on behalf of the sub-committee for soil conservation in District 6, I would express our appreciation to the PFRA and the ADF for their co-operation and generous support. The results achieved in three years show that in District 6 the benefits are well worth the cost.

Respectfully submitted by

D J McKell

D.J. (Doug) McKell P. Ag.
Extension Agrologist Dist. 6

Summary of 1988 Projects

Conservation Farming Practices Program
District 6 Agricultural Extension Board

Project	No. Completed	Comments
Chem fallow	15	approx. 1200 acreas
Zero tillage (direct seeding)	19	approx. 1500 acreas seeded with the haybuster 1000, conservapak system and farmer owned machinery, where crops were seeded, fertilized and packed in one operation.
Green manure	11	plowdown crops included sweet clover and Indian Head lentils.
Perennial forage	6	projects seeded on marginal land to prevent wind erosion.
Summer pasture	5	participants seeded fall rye and winter wheat in the spring to establish summer pasture.
2,4D for winter annual control	3	participants use 2,4D to control winter annuals in fall or spring.
Gully erosion control	2	Gullies are shaped and grassed to prevent erosion.
Continuous cropping		ongoing from 1986.

N.B. Field shelterbelts started in 1986 were maintained in 1988. However no new applications could be permitted.

CONSERVATION FARMING PRACTICES PROGRAM

PARTICIPANT WORKSHOP

WEDNESDAY, DECEMBER 14, 9:30 - 4:00
Glenavon Community Hall

9:30 - 9:45	Welcome Herve Lepage, Chairman Project Management Committee
9:45 - 10:30	Soil Conservation - Where are we headed John Kiss, Provincial Soil Specialist
10:30 - 10:45	Coffee
10:45 - 12:00	Project Participant Reports:
	- Chem-Fallow - Chad Thresher, Indian Head
	- Zero-Tillage
	- Noble blade - Dennis Kinvig, Edgeley
	- Indian Head Lentil - Russ Mattick
	- Indian Head Lentils - Wendal Lockert
	- 2,4-D for winter annual control - Henri Giroux
12:00 - 1:00	Lunch - courtesy ADF
1:00 - 1:30	Field Shelterbelts - PFRA - John Kort Their value in Todays Farming.
1:30 - 2:00	Shelterbelts, Clover Ploughdown - Don Howden, Qu'Appelle
2:00 - 2:30	ADF Double cropping using Conserva-Pak zero-till seeder - Jim Smith, Indian Head
2:30 - 3:15	Program plans 88 and green manure information - Vasile Klaassen, PFRA Area Conservationist.
3:15 - 3:30	Coffee
3:30 - 4:00	Wrap up and final comments - Doug McKell, Ag. Rep. and Graham Dorn, Project Agronomist

FINAL REPORT for Year Ending March 31, 1988

ERDA PROJECT 3.1-7

CONSERVATION FARMING

DISTRICT 6 AGRICULTURAL EXTENSION BOARD - INDIAN HEAD

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The program is under the direction of a committee of the District 6 Agricultural Extension Board. The committee publicizes the program, receives, reviews, priorizes and approves applications for on-farm projects. It receives and administers funds from the PFRA Soil Conservation Program and ERDA for operation of the program. It plans and organizes appropriate extension activities. Secretarial and accounting functions for the committee are provided by the District Agricultural Representative Office.

In 1987 94 projects were carried out. A summary of these projects is attached in Appendix I.

To date the committee has received $86,473.78 from the PFRA Soil Conservation Project for supporting these projects. $10,243.81 of ERDA funds have been expended to employ and reimburse two experienced agrologists who assisted with the extension and evaluation of the projects.

The program will be offered again under the qúidelines set out by the district board sub-committee and to date applications for over thirty projects have been submitted and many more expected.

Extension and Technology Transfer:

To date the following extension and technology transfer activities have been carried out:

a) Individual:

Each application for an on-farm project has been reviewed with the applicant in detail by an agrologist and/or engineer and a detailed proposal prepared (See Appendix II for sample). Efforts have been made to ensure that the participant has all the relevant information to carry out the project.

Once the project was implemented by the participant it was evaluated one or more times by an agrologist with the applicant noting the results and reasons for same. Upon completion of the project an evaluation report was completed and a statement of account prepared for payment. (See Appendix III for sample)

b) Participants Group:

i) "Sharing our Experiences" Workshop

A workshop was held December 14. 1987 where all participants were invited to share their experiences and results of their individual projects. A copy of the agend is included as Appendix IV. Although attendance was lower than expected (26) the group discussion and presentations were well received by all in attendance.

c) Public:

Most of the farm projects were appropriately signed with the S.O.S. Soil Conservation Signs. Participants were encouraged to share their information and experiences with their neighbors or any interested party.

The program received much public awareness and was highlighted in several key agricultural papers and farm shows.

To our surprise we were invited to the annual conference of the International Coalition where District 6 received an award for land use conservation practices. Doug McKell, temporary Agricultural Representative for District 6 and Gerry Willerth, District 6 board member, attended the event which was found to be very prestigious as well as informative. The fact that our efforts have been recognized by an international association such as the International Coalition speaks well for the work done by those involved with the District 6 Conservation Farming Practices program. A report of this conference and a brief description of the International Coalition is attached in Appendix V.

Once again the general farming public will be invited to a seminar in March where soil conservation issues will be discussed and the 1988/89 program will be highlighted.

d) Committee and Participating Agencies:

The program has provided an opportunity for the participating agencies - Sask. Agriculture, PFRA and local farmers represented by the District Board - to develop mechanisms to collectively work towards the common goal of soil conservation.

The committee members and many of the participants, by their involvement, have developed an interest and dedication to soil conservation reaching beyond their individual farms.

Financial Statement:

A financial statement to February 29, 1988 is attached (Appendix VII).

Summary of 1987 Projects

Conservation Farming Practices Program
District 6 Agricultural Extension Board

35 Chem-fallow - all completed approximately 2800 acres total.

20 Zero-tillage, a direct seeding where spring crops were seeded, fertilized and packed in one operation. Approximately 1700 acres total.

8 Green manure for plowdown with sweet clover, peas and the Indian Head lentil used - some of the longer term projects have been soil tested to compare fertility with conventional summerfallow. More will be tested in 1988.

5 Field Shelterbelt - no more projects can be handled this year due to backlog from 1987.

4 Perennial forage - projects placed on soil to prevent wind erosion.

2 Salinity control with Kochia - Good results were achieved with respect to stand establishment.

2 Winter wheat for summer pasture. Farmers were pleased with this technique.

1 each of cover crop pasture with legume, cultivator rod attachment, continuous cropping, annual barriers.

In addition 14 farmers took part in a fall 2,4-D for winter annual control program. These fields will be evaluated and demonstrated in spring 1988.

LETTER OF APPLICATION

FOR ASSISTANCE APPENDIX II

CANADA-SASKATCHEWAN SOIL CONSERVATION PROGRAM

DISTRICT 6 AGRICULTURAL EXTENSION BOARD

CONSERVATION FARMING PRACTICES COMMITTEE

DATE: March16 1987

APPLICANT'S NAME: Robert E. Banbury

ADDRESS: BOX568 Wolseley,Sask SOG 5HO PHONE NO: 698-2826

LEGAL LAND LOCATION OF RESIDENCE: SW-24-17-10-w2 R.M. NO155

TYPE OF PROJECT PROPOSED: Chemfallow

LEGAL LAND LOCATION OF PROJECT: SW-6-18-8-w2

NO. OF ACRES IN PROJECT FIELD (if applicable) Approx 100

PROJECT DESCRIPTION: (briefly describe what you propose to do, products you propose to use, etc.)

I propose to spray this 100 acres with 3/4 litres of roundup and 1/3 litre of trition and 5 ozs. of banvel around the end of June as I did last year.

ESTIMATED COST IN 1987: (if available) approx $25/acre

RECEIVED
MAR 16 1987
REGIONAL EA
DEPARTMENT
INDIAN

Robert E Banbury
(applicant's signature)

MAIL TO: Larry Koturbash
Agric. Representative
P.O. Box 399
Indian Head, Sask.
SOG 2K0

SAMPLE PROJECT
PROPOSAL

Chemfallow

Robert E. Banbury
Box 568, Wolseley
S0G 5H0

Telephone: 698-2826

Home quarter - SW 24-17-10 W2nd
Project Location - SW 6-18-8 W2nd

OBJECTIVE:

- To conserve the straw and stubble and reduce the risk of soil erosion from wind.
- To control weeds during the summerfallow period at a reasonable cost.

SOIL:

Clay loam - Clay texture. Flat topography with good drainage. Erosion has not been a problem in recent years.

SOIL COVER:

Durum wheat stubble - third crop. The amount of straw and stubble is average to less than average.

WEEDS:

Quack grass, Canada Thistle, buckwheat and mustard, stinkweed, wild oats, and volunteer wheat.

PROGRAM:

Chemfallow 100 acres in 1987. Seed cereals in 1988. This field will be compared with a field in conventional summerfallow. This field in chemfallow is 5 miles east and it would be a problem to move equipment to till 3 to 5 acres for comparison.

. . . /2

OPERATION:

	Cost/ac	Total Cost
End of June -- July		
Spray with Roundup, Banvel and Surfactant mix:		
Roundup .75 l/ac	18.00	1,800.00
Banvel 480 g/l .34 l/ac	7.15	715.00
Trition .14 l/ac	.80	80.00
Estimated total costs	$25.95	$2,595.00

EVALUATION:

- Compare the two fields as to amount of soil cover conserved during the summerfallow period.
- Compare the weed control, especially Canada Thistle and quack grass in 1987 and 1988.
- Record and compare input and other operation costs on the two fields.

NOTE: You may want to try using Ammonium Sulfate (21-0-0-(26)) in the Roundup mixture. Rate: 3 lbs. of 21-0-0-(26) in 10 gallons of water in the spray tank. Premix the 21-0-0-(26) in water and then add this mixture to the tank.

A. Elkin

July 23, 1987

PROJECT: CHEMTILL

Robert Banbury
Box 568, Wolseley

Project Location - SW 6-18-8 W2nd

Reduced Tillage on Summerfallow - ChemTill on 100 acres.

PROGRAM:

June 10-15
Due to rains, the field was sprayed with a mixture of Roundup at 1 l/ac, Banvel 480 at .133 l/ac and Trition XR at .17 l/ac with 10 gallons of water.

COSTS:

	Cost/ac	Total Cost
Roundup - $22.00/l	$22.00	$2200.00
Banvel - $22.40/l	2.98	298.00
Trition XR - $4.65/l	.79	79.00
Spraying Costs	1.50	150.00
Total Costs	$27.27	$2727.00

EVALUATION:

Very good control of buckwheat, green foxtail, wild oats, flixweed and other annual weeds.

The quack grass has turned brown, with small amount of green leaf showing in some patches. In these patches the Rhizones appear to be severely damaged, however there are few week buds or new shots starting to appear. The question - What to do with these patches?

The Canada Thistle is severely setback. There is the odd plant still showing fair amount of green color. The roots are brown and soft 8 to 10 inches deep.

In general this field is in good condition. There is one or two narrow misses with the sprayer. The straw and stubble has remained on the soil surface. It is becoming quite rotten.

The field which was chemfallow in 1986, is showing excellent control of quack grass and Canada Thistle. The area missed by the spraying in 1986 does indicate the excellent control on the Canada Thistle and quack grass. The Canada Thistle in the unsprayed areas are in blossom. The stand is 2 - 3 feet tall and thick. In the sprayed area, the thistles have been completely controlled this year. The wheat crop in the unsprayed area is thin, short and doing very poorly.

Bob will hand spray the thistles with Roundup.

Evaluated by V. Beaulieu

"LETTER OF APPLICATION" SAMPLE APPLICATION

FOR ASSISTANCE APPENDIX III

CANADA-SASKATCHEWAN SOIL CONSERVATION PROGRAM

DISTRICT 6 AGRICULTURAL EXTENSION BOARD

CONSERVATION FARMING PRACTICES COMMITTEE

DATE: APRIL 1 1987

APPLICANT'S NAME: DOUG. KENT

ADDRESS: GRENFELL PHONE NO: 697-3053

LEGAL LAND LOCATION OF RESIDENCE: NE 30-16-7-W2 R.M. NO: 154

TYPE OF PROJECT PROPOSED: Zero Till

LEGAL LAND LOCATION OF PROJECT: NE 30-16-7-W2

NO. OF ACRES IN PROJECT FIELD (if applicable) 80-90

PROJECT DESCRIPTION: (briefly describe what you propose to do, products you propose to use, etc.)

1. Zero Till wheat, durum or barley on field where we Z-tilled flax in 1986. Program will include pre-seed burnoff as necessary and spot treat Quackgrass with Round-Up.
2. We would also like to chem fallow or combination chem-till fallow up to 100 Acres. This land has some Quack patches and some of it has heavy winter wheat stubble. Chem treatment will be determined by type and frequency of growth.
3. We would also like to rent the Z-till disc Haybuster to Zero till 80 Acres laird lentils into wheat stubble.

ESTIMATED COST IN 1987: (if available) _____

RECEIVED
APR 7 1987
REGIONAL EXTENSION SERVICES
DEPARTMENT OF AGRICULTURE

Douglas E. Kent
(applicant's signature)

MAIL TO: ~~and to~~ Larry Koturbash
Agric. Representative
P.O. Box 399
Indian Head, Sask.
S0G 2K0

Zero Till Seeding

Doug Kent
Box 126, Grenfell
S0G 2B0

Telephone: 697-3059

Home quarter - NE 30-16-7 W2nd
Project Location - NE 30-16-7 W2nd

OBJECTIVE:

- To continue the zero till experience on the same field as was zero till seeded in 1986.

SOIL:

Medium loam texture. Slightly undulating topography with few low lying areas and limy knolls.

SOIL COVER:

Flax stubble 6 - 8 inches, fairly dense. The straw is in rows, will be bunched and burnt.

WEEDS:

Flixweed, stinkweed, buckwheat, cow cockle, quack grass (which was missed in 1986) and Canada Thistle (which may be sprayed with Roundup in the crop).

PROGRAM:

Seed 80 - 90 acres to spring wheat with Haybuster 1000 drill, after the field has been sprayed with chemicals.

. . . /2

OPERATION:

	Cost/ac	Total Cost
Pre-seeding weed control with Roundup - .5 l/ac	12.00	1,080.00
Non-ionic Surfactant - .14 l/ac	.80	72.00
Ammonium Sulfate 3 lbs. per 10 gallons of water	.20	18.00
Banvel (480 g/l) - .12 l/ac	2.50	225.00
2,4-D amine 500 - .34 l/ac	1.20	108.00
Treat quack grass at the same time Rustler is applied by spot spraying Roundup .8/ac on 5 acres (add in the Ammonium Sulfate)	1.10	96.00
Seed spring wheat 5 - 7 days after chemicals with Haybuster	7.00	630.00
Fertilizer - 40 lbs. Nitrogen - 20 lbs. Phosphate	18.00	1,620.00
Seed 1.5 bus/ac	4.50	405.00
Spraying weeds in crop 2,4-D amine 500 - .40 l/ac	1.40	126.00
Canada Thistle control patches 3 litres of Roundup	.80	72.00
Estimated total costs of seeding	$49.50	$4,452.00

EVALUATION:

- Crop development - observe and record yield.
- Weed control in the 1987 crop and 1988 crop.
- Soil condition - general tilth.
- Record costs and compare with conventional cropping operations.
- General operation of the Haybuster Drill.

SAMPLE EVALUATION

ZeroTill - Haybuster

Doug Kent
Grenfell

May 21, 1987

Meter reading at end 780.0
Meter reading at start - 935.5

Setting - Fertilizer 40-20-0 Pointer 9.5 - 120 lbs/ac
- Seed wheat 8.0 - 90 lbs/ac

SOIL:

Loam. Slightly undulating topography. Moisture at the 2.5 - 3 inch level.

SOIL COVER:

Flax stubble, straw rolled up and burnt.

WEEDS:

Quack grass is the major weed. The field had been sprayed with 2,4-D amine, and Roundup. The quack grass appeared to be taking the Roundup.

MACHINE:

Filled the tanks with water.

Set for greater depth by moving 3 washers. Getting the seed at 1.75 to 2 inches - just above the moisture.

A-11.

The rain fall was lacking until June 22 when 5 inches fell. There has been another inch of rain on June 30. These rains will fill the crop. It could yield fairly well.

WEED CONTROL:

The quack grass control has been a disappointment. The roots are starting to bud and the patches are green in some areas.

The green foxtail was not satisfactorily controlled by the Stampede. There are a few wild oats and wild barley plants throughout the field.

In general, the weeds are not a problem, other than the quack grass patches.

GENERAL COMMENTS:

The drill has worked well over the two years. Doug is happy and satisfied with the stand and the way the crop developed inspite of the dry weather.

Evaluated by V. Beaulieu

July 6, 1987

PROJECT: ZEROTILL - HAYBUSTER

Doug Kent
Box 126, Grenfell

Project Location - NE 30-16-7 W2nd

Zero Tilling wheat on flax stubble on 89 acres with Haybuster drill.

PROGRAM:

May 12
Sprayed 40 acres with Roundup at 1 litre per acre to control the quack grass.

May 19
Sprayed 2,4-D Ester L.V. 600 at .34 l/ac and Banvel at .058 l/ac.

May 22
Seeded the wheat with Haybuster drill and put down N2 and P205 fertilizer between the rows.

June 17
Sprayed Stampede on 40 acres of the field and 2,4-D Ester 600 at .34 l/ac on 49 acres.

COSTS:

	Cost/ac	Total Cost
Preseeding chemicals:		
Roundup - $22.00/l (40 ac.)	$ 9.89	$ 880.00
2,4-D L.V. Ester 600 - $4.60/l	1.55	138.00
Banvel 480 - $24.60/l	1.52	135.00
Spraying costs (2.5 operations)	3.75	334.00
Drill Rental	7.00	623.00
Fertilizer - 3.38 t of 46-0-0	14.91	1327.00
Seed Costs	4.50	400.00
Stampede on 40 acres	3.64	324.00
2,4-D Ester 600 Ester ~~on~~ 49 acres	.85	76.00
Total costs	$47.61	$4237.00

EVALUATION:

CROP:

The emergence was excellent. Doug indicates the best he had this spring. The drill seeded at a uniform depth and into moisture at 2.5 inches.

To date the crop is 8 - 10 inches high and is heading out. The crop has 2 to 3 stools and the heads are shorter than for a normal year. The color is dark green and has a healthy appearance.

CONSERVATION FARMING PRACTICES PROGRAM

"SHARING OF EXPERIENCES WORKSHOP"

Glenavon Community Centre
Monday, December 14th, 1987
9:30 a.m. to 4:00 p.m.

AGENDA

9:30	Welcome - Herve Lepage, Chairman Project Management Committee.
	Program Outline - Doug McKell, Agric.Rep.
10:00	Summaries of field observations - Larry Koturbash and Vic Beaulieu, project agronomists.
10:30	Zero-Till project reports - descriptions and results.
11:00	Clover plowdown project reports.
11:30	Field Shelterbelts - What value to modern farming - John Kort, PFRA.
12:00	Lunch - supplied.
1:00	PFRA set aside proposal - Fred Kraft.
2:00	Chem-Till project reports.
2:30	Winter wheat for summer pasture project reports.
3:00	Conservation Farming Today - Can we Affford it? - Larry Gramiak.
3:30	Future direction - general discussions with panel participants, Larry Gramiak, Vern Pusch, Vic Beaulieu, Larry Koturbash and Doug Willison.
4:00	Adjourn

On November 19, 1987 the Saskatchewan Agriculture Extension District Board #6 was honored with a land use award by the International Coalition for Land and Water Stewardship for the Red River Basin. The award was presented at the International Coalition's 5th Annual Red River Baisn Land and Water International Summit Conference. Among others receiving awards at the conference was Jim Halford, a prominent Indian Head area farmer whose Conserva Pak zero-till seeder has been used extensively in the Conservation Farming Practices Program in District 6.

The International Coalition group is not well known to Saskatchewan Agriculture or individual farmers in Saskatchewan. The following is a short address written by the Coalition's President, Land Yohne, which sums up the goals of this group:

> "Perhaps the "greatest problem" in soil and water management today is the gap between planning and implementation. It is evident to someone studying or working in the management field that enough knowledge exists. How, where and why management practices and structures and solutions could be implemented are relatively clear in the Red River Basin. The real problem in stimulating and enabling the public and leaders to become more aware of and involved in the planning process. This allows local concerns to be incorporated in planning. This also allows for public and leader support which can lead to the implementation of plans.
>
> In an area such as the Red River Basin with an international, 2 state, and 2 provincial jurisdictions, planning and implementing becomes a huge task.
>
> The Coalition has 2 Basin-wide goals to deal with this task and thereby help to bridge the gap between planning and implementation. The first goal is providing education to raise awareness of the public and basin leaders, especially local leaders. The second goal is to promote cooperation to enhance communication between the public, the leaders, and management across political boundaries around the basin. These two goals are instrumental in prioratizing land and water concerns that allows for grassroots participation and interaction.
>
> Through a series of seminars around the basin and at our annual basin-wide conference progress is being made. The public and basin leadership are interacting, learning, prioratizing, and beginning to support certain concepts and solutions that grow out of their perceived needs and sound technical possibilities.
>
> The result of all of these efforts is a growing list of priority concerns. These concerns address local needs in the context of a basin-wide perspective. The public, leaders, and management together must form the policy that determines

the future use and management of land and water resources. As they do so, they will bridge the gap between planning and implementation. They will also create the necessary support on all levels to bring about solutions."

The 1987 conference was held November 19 and 20 at the Holiday Inn, Winnipeg, Manitoba. Its theme for this year was land use. Over the two-day conference participants were engaged in panel discussions, heard keynote speakers on land use issues and finally met in groups to priorize land use problems and develop resolutions. Attending the conference this year from District 6 to receive the award were Gerry Willerth, board member and Doug McKell, temporary Agricultural Representative for District 6.

Distirct 6 Board received its award at the Thursday night banquet. Others receiving awards at that time included Bill Pool with the Turtle Mountain conservation project, for their work in biomass cash crop and polar tree planting and Prof. Wendel Johnson, Professor of Biology at the University of Minnesota for his work with short rotations of intensive culture where trees are grown as an alternative crop.

The International Coalition seems to be a well-run, respected organization. People attending the conference came from various walks of life including government bureaucrats, engineers, water resource people, mayors, researchers, farmers, etc. They all seemed very concerned with the land and water use problems and very committed to achieving their goals of increased public awareness of the problems.

The emcees for the Thursday night banquet were Ian Dickson, Executive Director of the Manitoba Natural Resources Conservation Districts Authority and Derek Doyle, Assistant Deputy Minister for Manitoba Natural Resources. They kept the banquet going at a brisk pace and it seemed the guest speaker for the evening would have a hard time topping their act. Such was not the case, however, as the guest speaker, Saskatchewan Senator Herbert O. Sparrow, entertained and informed the some 200 present with a provocative speech on "Soils at Risk".

Friday continued with panel land use discussions followed by Agency presentations from various agencies regarding their activities surrounding land use. Some of the agencies represented were, USDA Soil Conservation Service, Minnesota Dept. of Natural Resources, Manitoba Dept. of Natural Resources, PFRA, Saskatchewan Agriculture and Manitoba Agriculture.

All in all we were quite impressed with the International Coalition and their annual conference. They certainly are committed to the concept of conservation and have taken some bold steps to spread the word of the soil and water problems in the Red River Basin and some solutions to all those who live and work in that area.

I feel we can learn from the experiences that the International Coalition has gained in trying to bridge the gaps between governments, farmers, land users and conservationists. We in Saskatchewan, although not sharing their geography, share in their concerns and their problems in dealing with conservation issues.

TABLE 1

GUIDELINES FOR FUNDING SOIL CONSERVATION PROJECTS

CODE	PRACTICE	COST-SHARE %	MAXIMUM/CO-OPERATOR	
1.	Saline seep discharge alfalfa treatment	50%	$20./ac-100 ac	
2.	Saline Seep discharge flex cropping - Kochia	50%	$15./ac/yr-10 ac for up to 3 yrs.	
3.	Critical area treatment salinity, erosion, etc.	85%	$50./ac - 40 ac.	) No new applic tions accept in 198
4.	Shelterbelts			)
	a) establishing	100%	$150./mi - 1st year	)
	b) maintenance	100%	$85./mi - yrs. 2 & 3	)
	c) renovation	50%	to a maximum of $500.	)
5.	Grass & annual barriers	85%	$10./ac - 160 ac.	
6.	Wind stripcropping initial establishment	85%	$20./recropped ac-80 ac	
7.	Contour stripcropping initial establishment	85%	$20./recropped ac-80 ac	
8.	Erosion control dams	85%	$5000./dam	
9.	Shaping & grassing of field gullies	85%	$1000/gully-max 3000/yr	
10.	Conservation tillage systems-chemfallow, minimum & zero till	85%	$20./ac/yr - 70 ac for 3 yrs	
11.	Green manure/legume plowdown	50%	$10./ac - 160 ac.	
12.	Special equipment assist.			
	a) rental assistance	85%	Max $5000/yr./group	
	b) purchase assistance	50%	Max $5000/item/group.	
13.	Annual cover crop (not harvested)	50%	up to $5./ac-160 ac.	
14.	Staffing - Technicians	100%	in consultation with PFRA	
15.	Admin. & Extension Costs	100%	recoverable to a max of: $1500/Group/year.	
16.	Selected Innovative Technology Demonstration Projects	100%	Max. in consultation with P.F.R.A.	

* * * *

March 31, 1987

FINAL REPORT for Year Ending March 31, 1987

ERDA PROJECT 3.1-7

CONSERVATION FARMING

DISTRICT 6 AGRICULTURAL EXTENSION BOARD - INDIAN HEAD

Funds provided by this project are used to support the extension and technology transfer aspect of the District 6 Agricultural Extension Board's Conservation Farming Practices Program and to help ensure its efficient administration.

The "Conservation Farming Practices Program" has as its objective "to demonstrate, evaluate and promote soil conservation farming practices". The program utilizes funds from the PFRA Soil Conservation Program to provide assistance to farmers for implementing a variety of soil conservation projects on their farms.

The administration and extension and technology transfer have developed in a general way as follows:

Administration:

The program is under the direction of a committee of the District 6 Agricultural Extension Board. The committee publicizes the program, receives, reviews, priorizes and approves applications for on-farm projects. It receives and administers funds from the PFRA Soil Conservation Program and ERDA for operation of the program. It plans and organizes appropriate extension activities. Secretarial and accounting functions for the committee are provided by the District Agricultural Representative office.

There were 74 participants in the 1986 phase of the program. A summary of on-farm projects is shown in Appendix I. To date the committee has received $61,993.25 from the PFRA Soil Conservation Project for support of on-farm projects. $5,318.53 of ERDA funds have been expended, all for the employment and travel expenses of an experienced agrologist to assist with the extension and technology component of the program.

An assistance program for on-farm demonstration projects of Conservation Farming Practices is again being offered in the 1987 crop year (see Appendix VI). To date 48 applications have been received for participation.

Extension and Technology Transfer:

To date the following extension and technology transfer activites have been carried out:

a) Individual:

Each application for an on-farm project has been reviewed with the applicant in detail by an agrologist and/or engineer and a detailed proposal prepared (See Appendix II for sample.) Efforts have been made to ensure that the participant has all the relavent information to carry out the project.

Once the project was implemented by the participant it was evaluated one or more times by an agrologist with the applicant noting the results and reasons for same. Upon completion of the project an evaluation report was completed and a statement of account prepared for payment. (See Appendix III for sample)

b) Participants Group

i) Sharing our Experiences" Workshop.

A workshop to provide an opportunity for participants to share their experiences with their projects was held. Thirty-five participants attended. It should be noted that the Workshop was oriented to Chem-Till and Direct Seeding projects. Summaries of evaluations for all the projects were prepared and provided to all the participants. Selected participants representative of the total spectrum of experience presented information on their respective projects for discussion by the group. The discussion was supplemented by presentations by appropriate resource persons. Appendix IV is a copy of the agenda for the workshop.

ii) "Reduced Tillage Cropping Options" Seminar.

The seminar was arranged for participatns and other farmers interested in conservation tillage to look at "Reduced Tillage Options" for their 1987 cropping year. A copy of the seminar agenda is appended (Appendix VI). Forty participants attended.

c) Public:

Three field days/tours were held to give the public an opportunity to see some of the on-farm projects. Participants had frequent opportunities to share information about their projects and the program with neighbors and friends.

Some of the projects were "signed" to draw public attention. Plans are in place to have signs for all projects in the coming year. The program is reported on at district agricultural events and staff seminars.

Relavent information from the program will be used in a variety of ways in promoting soil conservation through the various regular extension programs in the district.

The program has been described and reported on in a newsletter circulated to all farmers in Agricltural Extension District 6.

d) Committee and Participating Agencies:

The program has provided an opportunity for the participating agencies - Sask. Agriculture, PFRA and local farmers represented by the District Board - to develop mechanisms to collectively work towards the common goal of soil conservation.

The committee members and many of the participants, by their involvement, have developed an interest and dedication to soil conservation reaching beyond their individual farms.

Financial Statement

A financial statement to March 31, 1987 is attached (Appendix VII).

Respectfully Submitted,

Larry Koturbash
Secretary
District 6 Agricultural Extension Board
Conservation Farming Practices Committee

APPENDIX I

Summary of 1986 Projects

Conservation Farming Practices Program
District 6 Agricultural Extension Board

22 Chem - Till Projects - all completed - approx. 2500 acres total.

10 Direct Seeding (Zero Till) of spring seeded crops - all complete - approx. 700 acres seeded.

8 Direct Seeding (Zero Till) winter wheat/fall rye and banding fertilizer - all complete - approx. 600 acres.

8 Legume Plowdown/Green Manure projects - 6 seeded in 1986; 2 to be seeded in 1987.

1 Drainage & Irrigation project - awaiting technical services from PFRA.

2 Extended Crop Rotations projects - 1 underway in 1986.

9 Gully Erosion Control projects - all authorized; none of the participants were able to do any work on these in 1986.

14 Salinity Control Projects - awaiting intensive investigations and/or reports from PFRA - field work initiated on five.

10 Field Shelterbelt projects - planning and design completed for approx. 15 miles of field shelterbelts; trees will be planted in spring of 1987.

2 Comprehensive Water Management Projects - awaiting topographic surveys and design information from PFRA.

Sample Project Proposal

PROJE. : CONSERVATION TILLAGE

Approved
Eb-05-...

Dennis Kinvig
Box 23
Edgeley, Sask
S0G 1L0

Phone: 699-2608

Home quarter - SE1/4-20-20-15 W2nd (dad's)
1986 Project - NW1/4 20-20-15 W2nd - 80 acres

Objective:

To conserve the straw and stubble during the summerfallow period to reduce the risk of soil erosion by wind.

To control weeds during the summerfallow period.

Soil:

A clay loam texture fairly flat topography with slope to the north. It is subject to wind erosion and water erosion in the water runs.

Soil Cover:

Barley stubble - fair amount of straw and stubble.

Weeds:

Flixweed, stinkweed, mustard, buckwheat, cow cockle, lambs quarter, redroot pigweed and whitlow grass. There were very few weeds started when the field was checked on May 1, 1986.

Program - Field No. 1 1986:

1986 - Summerfallow - chemicals
1987 - Barley - crop
1988 - Summerfallow

Sites for fields No. 2 and No. 3 sill be selected at a later date.

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Operations:

Field No. 1 - 1986	Cost/ac	Total
Hay		
2.4-D amine (500g active/l) .4 l/ac	1.20	96.00
June		
Spray with Sweep and if buckwheat and cow cockle are present tank mix banvel		
Sweep - .81 l/ac	8.40	672.00
Banvel .117 l/ac(480g active/l)	2.80	224.00
July - August		
Repeat the Sweep spraying if weeds	8.40	672.00
and volunteer grains are present	2.80	224.00
Sept. - Oct.		
Check for winter annuals if present spray with 2.4-D amine(500g active/l) .4 l/ac	1.20	96.00
Cost estimate for chemicals	$24.80	$1984.00
For three years	$74.40	$5952.00

With necessary adjustment the above treatment will be used on No. 2 and No. 3 fields for 1987 and 1988.

Evaluation:

Measure the amount of stubble and straw at the beginning and the end of the summerfallow period.

Observe and record weed control.

Record costs.

Record the yields in 1987, 1988 and 1989.

Sample Project Proposal

PROJECT: ZERO TILL SEEDING WITH A RENTED HAYBUSTER DRILL

Herve Lepage
Box 98
Montmartre, Sask.
SOG 3M0

Phone: 424-2808

Home quarter: SW 5-15-11 W 2nd
Project location: SE 23-15-12 W 2nd

OBJECTIVE:

- To compare seeding directly into stubble and placing fertilizer with a zero till drill to conventional method of seeding stubble with a double disc press drill
- To compare the costs and returns between seeding with zero till drill directly into stubble with seeding with a conventional seeding procedure

SOIL:

Weyburn loam - gentle undulating topography

SOIL COVER:

Wheat stubble - fair amount of straw and stubble, especially in the low areas.

WEEDS:

Volunteer grain, wild oats, witlow'grass, flixweed, stinkweed, few Canada thistle and little bit of quack grass in some low areas.

PROGRAM:

Seed 120 acres with rented zero till drill.
- harrow to spread the straw
- spray with Roundup and 2,4-D amine mixture
- seed wheat directly in the stubble and apply the required amount of fertilizer with the seeding operation
- harrow

OPERATION:

- Seed 120 acres
- harrowed, to spread straw
- spray - Roundup @ .5 1/ac, surfactant @ .14 1/ac and 2,4-D amine (500 g/l) @ .280 1/ac
- seed wheat with Haybuster @ 60 lbs/ac
- fertilize by banding - 150 lbs/ac of 42-7-0
- fertilize with the seed - 25 lbs/ac of 11-55-0
- harrow

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COSTS:

	per acre	total
Roundup - .5 l/ac @ $23.70/l	$ 11.85	$ 1,422.00
Surfactant - .14 l/ac @ $6.00/l	.84	100.00
2,4-D amine - .280 l/ac @ $2.70/l	.75	91.00
Seed wheat - 1 bu/ac $5.00/bu	5.00	600.00
Fertilizer- 60 lbs N_2/ac @ 23¢/lb	13.80	1,656.00
- 25 lbs P_2O_5 /ac $ 24¢/lb	6.00	720.00
Drill rental	7.00	840.00
Sprayer (own)	2.00	240.00
Tractor (own)	3.90	468.00
Total	$ 51.14	$ 6,137.00

EVALUATION:

- To check and record yield between the zero till seeded field and a conventional seeded field
- Check and observe seed placement, crop emergence and development thoughout the growing season
- Observe and check the weed control
- Record and compare costs and returns between zero till seeded field with conventional seeded field

Sample Project Evaluatior Summary

CHEMICAL SUMMERFALLOW

Mr. Dennis Kinvig
Box 23
Edgeley, Saskatchewan
S0G 1L0

August 12, 1986

Project located on NW-20-25-15 W2nd

Mr. Kinvig has treated 80 acres with Sweep and Banvel mixture. He has sprayed the field twice.

Costs of Chemical:

	Cost/ac	Total Cost
June 8 - Sweep at .91 l/ac. 73 litres used at 9.50/l	8.66	693.00
Banvel at .117 l/ac 10 litres used at 21.47/l	2.69	215.00
Aug. 8 - A repeat of the above mixture of Sweep and Banvel	11.35	908.00
Cost of Chemicals	$22.70	$1816.00
Spraying costs - $2.00/ac 2 operations	4.00	320.00
Total costs to date	$26.70	$2136.00

The weed control has been excellent. The Canada Thistles were burnt by the last spraying. It is likely these thistle will recover and Mr. Kinvig will use Roundup on these Canada Thistle patches.

Mr. Kinvig counted the standing straw before starting the weed control measure. There was 42 straws standing at this time. At present the stubble and straw cover is excellent. He has saved a very high percentage of soil cover.

This is a very good field. There is some concern that there will be a third regrowth of weeds, as the second spraying had to be done earlier than expected. However, the volunteer barley and green foxtail required this spraying.

Mr. Kinvig is very happy with this field at present.

JUNE 30, 198

EVALUATION OF THE CROP:

Herve has the following procedure to seed stubble with a double disc press drill:
- harrowed in the fall to spread straw
- bands fertilizer in the fall, placing all the required N_2 and 50% of the P_2O_5
- in the spring - two cultivations with mounted harrows - seeds with the double disc press drill
- sprays with the required chemical to control the weeds. They use little or no soil incorporated chemical for weed control

THE PLOT:

- was harrowed to spread the straw
- sprayed with Roundup, surfactant and 2,4-D amine mixture
- seeded with Haybuster 1000 drill, applying fertilizer by banding and with the seed
- harrowed

PLOT EVALUATION:

- seeded May 30
- Weed control was very good and there are very few weeds in the field at this date
- The crop is in the 4 to 5 leaf stage with 1 to 2 stools per plant, with the starting of the secondary root. It is 5 to 6 inches high with adequate number of plants within the seed row. The plants are a dark green colour and should yield well.

The overall emergence was uniform and quick as the seeding depth was 1¼ to 1½ inches deep into good moisture supply. However, the drill did place the seed shallow in areas where the straw and chaff were heavier as it pinned the straw and chaff into the seed row leaving the seed dry and exposed.

The Lepage's take a number of crops between summerfallow years. They will continue to crop a field until a weed problem or some other problem develops which requires summerfallow. At present all the fields have from 3 to 7 years of crop.

Herve feels that zero till is a practice which will continue to expand into the area. It has a real future on lighter texture soils. How quickly the practice expands will depend upon adequate equipment, and the cost of this equipment. It will also depend on the costs of other inputs and returns for grain.

EVALUATION OF THE HAYBUSTER:

- Seed placement was good, except in heavy straw and chaff areas. In these areas the seed was place too shallow, the straw and chaff was pinned in the seed row.
- Crop emergence was good, other than in the straw and chaff areas. There was no problem with trash.
- The front fertilizer tank - the fertilizer flow or rate varied as the seeding operation proceeded across the field.

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Marve Lepage, Montmartre

SEEDING - ZERO TILL DRILL

RECORD OF CROP INPUTS

DATE	INPUTS	RATE/ACRE	**COST/ACRE
May 22	Roundup	.5 litre	11.85
	Surfactant	.14 litre	.84
	2,4-D amine	.28 litre	.75
May 30	Fertilizer		
	Nitrogen	60 lbs.	13.80
	Phorphorus	25 lbs.	6.00
TOTAL COSTS OF CASH INPUTS/ACRE			$33.24

RECORD OF FIELD OPERATIONS

May 19	Harrowing-strawspreading	1.52
May 22	Spraying	1.50
May 30	Seeding - zero till drill	10.55
May 31	Harrowing	1.52
		$15.09

NOTES

Weed control very good
Seed placement good - other than in straw and chaff areas.
Yield
- 42 bushels per acre - 58 lbs. per bushel - grade Utility
- On the conventional seeded field, yield 44 bushels per acre - 59 lbs. per bushel - grade No. 3

The conventional seeded field was sown a week earlier than the zero till field
All Costs calculated on the total field - 120 acres.

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Herve Lepage, Montmartre

CONVENTIONAL SEEDING
DOUBLE DISC PRESS DRILL

RECORD OF CROP INPUTS

DATE/86	INPUTS	RATE/ACRE	**COST/AC
	Hoegrass 284	1.13 litre	5.18
	2,4-D amine	.35 litre	.70
	Fertilizer		
	Nitrogen	60 lbs.	13.80
	Phorphorus	25 lbs.	6.00
TOTAL COST OF INPUTS/ACRE			$25.68

RECORD OF FIELD OPERATIONS

Fall	Harrowing	1.52
Spring	Banding	2.60
Spring	Harrowed twice	3.00
	Cultivated	2.60
May 23	Seeding	5.40
	Spraying (2 operations)	3.00
TOTAL COST OF FIELD OPERATIONS		$19.64

** All costs calculated on the total field - 200 acres.

APPENDIX IV

DISTRICT 6 AGRICULTURAL EXTENSION BOARD

CONSERVATION FARMING PRACTICES PROGRAM

"Sharing Our Experiences" Workshop

Glenavon Community Centre:
Thursday, December 11th, 1986:
9:30 A.M. to 4:00 P.M.

PROGRAMME:

9:30 A.M.	Welcome - Herve Lepage, Chairman Project Management Committee
	Program Outline - L. Koturbash
	Soil Conservation - need for and opportunities - Don Flaten, Sask. Agriculture
	Chem-Till Projects - Project Description and results
	Roundup - its use in Conservation Tillage Systems - Aaron Mitchel, Monsanto Chemicals
	Direct Seeding Projects - Project descriptions and results and discussion
	Summaries of field observations - L. Koturbash - W. V. Beaulieu
	Salinity Control - PFRA approach to analysing salinity problems - Adeline Elias
12:00 noon	Lunch - supplied
	Progress Report on other projects - L. Koturbash
	Innovative Forages - Tangiers flat peas, hybrid corn, Sorghum Sudangrass - K. Ferch
	Proposal for a Saskatchewan Farmer's Soil Conservation Association - J. Halford
	Future directions for Conservation Farming Practices Program - a general discussion
	Workshop Summation - Don Flaten, Sask. Agriculture
4:00 p.m.	Adjourn
NOTE:	Programme subject to change.

APPENDIX V.

"REDUCED TILLAGE CROPPING OPTIONS"
SEMINAR

GLENAVON COMMUNITY CENTER

TUESDAY, MARCH 24, 1987

10:00 A.M. TO 4:00 P.M.

PROGRAMME:

10:00 A.M.

Reduced Tillage Cropping Systems and Rotations
Kerry Foster, Crop Development Centre
University of Saskatchewan, Saskatoon

Maximizing Returns from the Chemical Dollar
- reduced rates
- economic threshold weed populations
- additives
Doug Derksen, Researcher, Agriculture Canada
Experimental Farm, Indian Head

Squeezing Profits out of Low Grain Prices
Don Flaten, Soils & Crops Specialist
Saskatchewan Agriculture

LUNCH
12:00 NOON

Conservation Practices in Australia & New Zealand
Joe Linnell and Jim Halford.

Enerdemo Project - getting the most out of your farm fuel
Ken Hunter, Farmer, Corning

Sask. Soil Conservation Association
Ken Duke, Langbank, Director

District 6 Conservation Farming Practices Program 1987
Larry Koturbash, Agric. Representative

ADJOURN
4:00 P.M.

DISTRICT 6 AG. EXTENSION BOARD
"CONSERVATION FARMING PRACTICES PROGRAM" - 1987

Co-operating Agencies:
Agriculture Canada - P.F.R.A.
Saskatchewan Agriculture
District 6 Agric. Extension Board

1) OBJECTIVE:

The objective of the program is to demonstrate, evaluate and promote soil conservation farming practices.

2) YOUR PARTICIPATION IS INVITED.

If you have a conservation farming practice that you would like to evaluate and implement on your farm, financial and technical assistance may be available through the program to help you do so.

3) ELIGIBILITY & TERMS OF ASSISTANCE

A) All farmers in Ag. Ext. District 6 are eligible to participate.
B) Proposed projects must be soil conservation oriented.
C) Practices now routinely used on the applicant's farm will not be eligible for funding.
D) All projects are subject to approval by the P.F.R.A. Soil Conservationist.
E) Participants must agree to share their experience with other farmers in the District by:
   1) Providing pertinent data on their project to the Committee.
   2) Maintaining an information plot sign in the field.
   3) Providing access to tours & visitors to see the project.
   4) Participating in seminars, meetings, to report on their projects.

4) ASSISTANCE AND SERVICES AVAILABLE

A) Technical and Advisory:
The P.F.R.A. Soil Conservationist, the Project Agronomist, the Agric. Rep. and other persons are available to help assess the nature and extent of soil degradation and develop remedial soil conservation practices.

B) Material:
Specialized equipment eg. zero-till drill, tree planters, may be available on a loan or rental basis.
Trees for field shelterbelts will be provided by P.F.R.A. Tree Nursery.

4) Financial:

Financial Assistance for on-farm projects is provided through the P.F.R.A. Soil Conservation Program.

Examples of projects that may be funded and the level of funding are listed in Table I. The listing is not exculsive.

Projects will be funded to the extent that funds are available. The Board may limit the projects funded and the level of funding, giving regard to such factors as total funds available, geographic distribution of projects in the District and the number of projects in each category. In any case, the maximum funding shall not exceed $5,000. per participant per year.

5) HOW TO APPLY

Submit a written letter of application to L. Koturbash, Secretary, District 6 Agric. Extension Board, Box 399, Indian Head, Sask., S0G 2K0.

The letter of application should provide the following information:

a) Applicant's name, address, and telephone number.
b) Land location of applicant's residence.
c) Land location of the proposed project.
d) Description of the project you propose to undertake Provide brief details of work to be done, treatments to be applied, etc.

Alternatively, you may get a form letter of application from our office, complete it and return it to us.

Please note that the management committee requires considerable lead time to consider your application, so apply early.

6) Upon receipt of "Letter of Application", the project agronomist will contact you with respect to further details.

TABLE 1

GUIDELINES FOR FUNDING SOIL CONSERVATION PROJECTS

CODE	PRACTICE	COST-SHARE %	MAXIMUM/CO-OPERATOR	
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16.	Selected Innovative Technology Demonstration Projects	100%	Max. in consultation wit P.F.R.A.	

* * * *

December 15, 1986

PROGRESS REPORT

ERDA PROJECT 3.1-7

CONSERVATION FARMING

DISTRICT 6 AGRICULTURAL EXTENSION BOARD - INDIAN HEAD

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Respectfully Submitted,

L. Koturbash

Larry Koturbash
Secretary
District 6 Agricultural Extension Board
Conservation Farming Practices Committee

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District 6 Agricultural Extension Board

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Sample Project Proposal

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Dennis Kinvig
Box 23
Edgeley, Sask
S0G 1L0

Phone: 699-2608

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To control weeds during the summerfallow period.

Soil:

A clay loam texture fairly flat topography with slope to the north. It is subject to wind erosion and water erosion in the water runs.

Soil Cover:

Barley stubble - fair amount of straw and stubble.

Weeds:

Flixweed, stinkweed, mustard, buckwheat, cow cockle, lambs quarter, redroot pigweed and whitlow grass. There were very few weeds started when the field was checked on May 1, 1986.

Program - Field No. 1 1986:

1986 - Summerfallow - chemicals
1987 - Barley - crop
1988 - Summerfallow

Sites for fields No. 2 and No. 3 sill be selected at a later date.

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Operations:

Field No. 1 - 1986	Cost/ac	Total
May		
2.4-D amine (500g active/l) .4 l/ac	1.20	96.00
June		
Spray with Sweep and if buckwheat and cow cockle are present tank mix banvel		
Sweep - .91 l/ac	8.40	672.00
Banvel .117 l/ac(480g active/l)	2.80	224.00
July - August		
Repeat the Sweep spraying if weeds	8.40	672.00
and volunteer grains are present	2.80	224.00
Sept. - Oct.		
Check for winter annuals if present spray with 2.4-D amine(500g active/l) .4 l/ac	1.20	96.00
Cost estimate for chemicals	$24.80	$1984.00
For three years	$74.40	$5952.00

With necessary adjustment the above treatment will be used on No. 2 and No. 3 fields for 1987 and 1988.

Evaluation:

Measure the amount of stubble and straw at the beginning and the end of the summerfallow period.

Observe and record weed control.

Record costs.

Record the yields in 1987, 1988 and 1989.

PROJECT: ZERO TILL SEEDING WITH A RENTED HAYBUSTER DRILL

Herve Lepage
Box 98
Montmartre, Sask.
SOG 3M0

Phone: 424-2808

Home quarter: SW 5-15-11 W 2nd
Project location: SE 23-15-12 W 2nd

OBJECTIVE:

- To compare seeding directly into stubble and placing fertilizer with a zero till drill to conventional method of seeding stubble with a double disc press drill
- To compare the costs and returns between seeding with zero till drill directly into stubble with seeding with a conventional seeding procedure

SOIL:

Weyburn loam - gentle undulating topography

SOIL COVER:

Wheat stubble - fair amount of straw and stubble, especially in the low areas.

WEEDS:

Volunteer grain, wild oats, witlow grass, flixweed, stinkweed, few Canada thistle and little bit of quack grass in some low areas.

PROGRAM:

Seed 120 acres with rented zero till drill.
- harrow to spread the straw
- spray with Roundup and 2,4-D amine mixture
- seed wheat directly in the stubble and apply the required amount of fertilizer with the seeding operation
- harrow

OPERATION:

- Seed 120 acres
- harrowed, to spread straw
- spray - Roundup @ .5 l/ac, surfactant @ .14 l/ac and 2,4-D amine (500 g/l) @ .280 l/ac
- seed wheat with Haybuster @ 60 lbs/ac
- fertilize by banding - 150 lbs/ac of 42-7-0
- fertilize with the seed - 25 lbs/ac of 11-55-0
- harrow

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COSTS:

	per acre	total
Roundup - .5 l/ac @ $23.70/l	$ 11.85	$ 1,422.00
Surfactant - .14 l/ac @ $6.00/l	.84	100.00
2,4-D amine - .280 l/ac @ $2.70/l	.75	91.00
Seed wheat - 1 bu/ac $5.00/bu	5.00	600.00
Fertilizer- 60 lbs N_2/ac @ 23¢/lb	13.80	1,656.00
- 25 lbs P_2O_5 /ac $ 24¢/lb	6.00	720.00
Drill rental	7.00	840.00
Sprayer (own)	2.00	240.00
Tractor (own)	3.90	468.00
Total	$ 51.14	$ 6,137.00

EVALUATION:

- To check and record yield between the zero till seeded field and a conventional seeded field
- Check and observe seed placement, crop emergence and development thoughout the growing season
- Observe and check the weed control
- Record and compare costs and returns between zero till seeded field with conventional seeded field

Sample Project Evaluation . Summary

CHEMICAL SUMMERFALLOW

Mr. Dennis Kinvig
Box 23
Edgeley, Saskatchewan
S0G 1L0

August 12, 1986

Project located on NW-20-25-15 W2nd

Mr. Kinvig has treated 80 acres with Sweep and Banvel mixture. He has sprayed the field twice.

Costs of Chemical:

	Cost/ac	Total Cost
June 8 - Sweep at .91 l/ac.		
73 litres used at 9.50/l	8.66	693.00
Banvel at .117 l/ac		
10 litres used at 21.47/l	2.69	215.00
Aug. 8 - A repeat of the above mixture of Sweep and Banvel	11.35	908.00
Cost of Chemicals	$22.70	$1816.00
Spraying costs - $2.00/ac 2 operations	4.00	320.00
Total costs to date	$26.70	$2136.00

The weed control has been excellent. The Canada Thistles were burnt by the last spraying. It is likely these thistle will recover and Mr. Kinvig will use Roundup on these Canada Thistle patches.

Mr. Kinvig counted the standing straw before starting the weed control measure. There was 42 straws standing at this time. At present the stubble and straw cover is excellent. He has saved a very high percentage of soil cover.

This is a very good field. There is some concern that there will be a third regrowth of weeds, as the second spraying had to be done earlier than expected. However, the volunteer barley and green foxtail required this spraying.

Mr. Kinvig is very happy with this field at present.

EVALUATION OF THE CROP:

Herve has the following procedure to seed stubble with a double disc press drill:
- harrowed in the fall to spread straw
- bands fertilizer in the fall, placing all the required N_2 and 50% of the P_2O_5
- in the spring - two cultivations with mounted harrows - seeds with the double disc press drill
- sprays with the required chemical to control the weeds. They use little or no soil incorporated chemical for weed control

THE PLOT:

- was harrowed to spread the straw
- sprayed with Roundup, surfactant and 2,4-D amine mixture
- seeded with Haybuster 1000 drill, applying fertilizer by banding and with the seed
- harrowed

PLOT EVALUATION:

- seeded May 30
- Weed control was very good and there are very few weeds in the field at this date
- The crop is in the 4 to 5 leaf stage with 1 to 2 stools per plant, with the starting of the secondary root. It is 5 to 6 inches high with adequate number of plants within the seed row. The plants are a dark green colour and should yield well.

The overall emergence was uniform and quick as the seeding depth was 1¼ to 1½ inches deep into good moisture supply. However, the drill did place the seed shallow in areas where the straw and chaff were heavier as it pinned the straw and chaff into the seed row leaving the seed dry and exposed.

The Lepage's take a number of crops between summerfallow years. They will continue to crop a field until a weed problem or some other problem develops which requires summerfallow. At present all the fields have from 3 to 7 years of crop.

Herve feels that zero till is a practice which will continue to expand into the area. It has a real future on lighter texture soils. How quickly the practice expands will depend upon adequate equipment, and the cost of this equipment. It will also depend on the costs of other inputs and returns for grain.

EVALUATION OF THE HAYBUSTER:

- Seed placement was good, except in heavy straw and chaff areas. In these areas the seed was place too shallow, the straw and chaff was pinned in the seed row.
- Crop emergence was good, other than in the straw and chaff areas. There was no problem with trash.
- The front fertilizer tank - the fertilizer flow or rate varied as the seeding operation proceeded across the field.

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rve Lepage, Montmartre

EEDING - ZERO TILL DRILL

ECORD OF CROP INPUTS

ATE	INPUTS	RATE/ACRE	**COST/ACRE
ay 22	Roundup	.5 litre	11.85
	Surfactant	.14 litre	.84
	2,4-D amine	.28 litre	.75
ay 30	Fertilizer		
	Nitrogen	60 lbs.	13.80
	Phorphorus	25 lbs.	6.00
OTAL COSTS OF CASH INPUTS/ACRE			$33.24

ECORD OF FIELD OPERATIONS

ay 19	Harrowing-strawspreading	1.52
ay 22	Spraying	1.50
ay 30	Seeding - zero till drill	10.55
ay 31	Harrowing	1.52
		$15.09

ES

Weed control very good
Seed placement good - other than in straw and chaff areas.
Yield
- 42 bushels per acre - 58 lbs. per bushel - grade Utility
- On the conventional seeded field, yield 44 bushels per acre - 59 lbs. per bushel - grade No. 3

The conventional seeded field was sown a week earlier than the zero till field
All Costs calculated on the total field - 120 acres.

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Herve Lepage, Montmartre

CONVENTIONAL SEEDING
DOUBLE DISC PRESS DRILL

RECORD OF CROP INPUTS

DATE/86	INPUTS	RATE/ACRE	**COST/AC
	Hoegrass 284	1.13 litre	5.18
	2,4-D amine	.35 litre	.70
	Fertilizer		
	Nitrogen	60 lbs.	13.80
	Phorphorus	25 lbs.	6.00
TOTAL COST OF INPUTS/ACRE			$25.68

RECORD OF FIELD OPERATIONS

Fall	Harrowing	1.52
Spring	Banding	2.60
Spring	Harrowed twice	3.00
	Cultivated	2.60
May 23	Seeding	5.40
	Spraying (2 operations)	3.00
TOTAL COST OF FIELD OPERATIONS		$19.64

** All costs calculated on the total field - 200 acres.

APPENDIX IV

DISTRICT 6 AGRICULTURAL EXTENSION BOARD

CONSERVATION FARMING PRACTICES PROGRAM

"Sharing Our Experiences" Workshop

Glenavon Community Centre:
Thursday, December 11th, 1986:
9:30 A.M. to 4:00 P.M.

PROGRAMME:

9:30 A.M.	Welcome - Herve Lepage, Chairman Project Management Committee
	Program Outline - L. Koturbash
	Soil Conservation - need for and opportunities - Don Flaten, Sask. Agriculture
	Chem-Till Projects - Project Description and results
	Roundup - its use in Conservation Tillage Systems - Aaron Mitchel, Monsanto Chemicals
	Direct Seeding Projects - Project descriptions and results and discussion
	Summaries of field observations - L. Koturbash - W. V. Beaulieu
	Salinity Control - PFRA approach to analysing salinity problems - Adeline Elias
12:00 noon	Lunch - supplied
	Progress Report on other projects - L. Koturbash
	Innovative Forages - Tangiers flat peas, hybrid corn, Sorghum Sudangrass - K. Ferch
	Proposal for a Saskatchewan Farmer's Soil Conservation Association - J. Halford
	Future directions for Conservation Farming Practices Program - a general discussion
	Workshop Summation - Don Flaten, Sask. Agriculture
4:00 p.m.	Adjourn
NOTE:	Programme subject to change.